

REMARKS

The application has been reviewed in light of the Office Action mailed December 5, 2003. Claim 14 has been amended and new claims 20-24 have been added without adding new matter. Claim 6 has been cancelled. The specification and drawings have also been amended as explained below. Reconsideration of the application is requested in view of the following.

The Office Action asserts that the title of the invention is not descriptive, and that a "new title is required that is clearly indicative of the invention to which the claims are directed." Office Action, 2. As requested, Applicants have amended the title of the invention.

The drawings are objected to because "Fig. 11 is labeled as 'Prior Art', but is described in the specification as showing an embodiment of the present invention." Office Action, 2. Applicants are submitting herewith a Replacement Sheet deleting the label "Prior Art" from Figure 11.

Also, the drawings are objected to under 37 CFR 1.83(a) because the "plural reflecting portions of the reflecting portion of the optical device ... must be shown or the feature(s) cancelled from the claim(s)." Office Action, 2. As requested, Applicants are enclosing an Annotated Drawing Sheet, showing proposed changes to Figure 9, which show the reflecting portion 46a comprising reflecting portions 46b and 46c, which reflect different wavelengths. Support for this change can be found, for example, on page 17, lines 24-48, and claim 6 of the as filed specification. No new matter has been added. The specification has been amended to include reference to elements 46b and 46c.

Claim 14 is objected to due to a typographical error. Applicants thank the Examiner for the careful reading of the claims. Claim 14 has been amended to correct the typographical error.

Claims 1-4, 9 and 10 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Takeda, U.S. Patent No. 6,084,844 (hereinafter "Takeda").

Reconsideration is requested for the following reasons.

Claim 1 of the invention recites a "photodetecting device configured to detect the light beam reflected from the optical recording medium ... for signal light detection; and ... the light beam reflected by the reflecting portion of the optical device to the photodetecting device for monitor light detection." This feature of the invention is shown and described, for example, in Figure 4 and associated text of the specification. As illustrated in Figure 4, a photodetecting device 7 has portion 7a for detecting a signal light, and also a portion 7b for monitor light detection. And, the specification discloses that a "signal light from the optical recording medium 10 and a monitor light are both guided to the one photodetecting device 7. As a result, the light utilization efficiency and the accuracy of signal light detection can be improved." Specification, p. 9, ll. 40-45 (emphasis added).

Takeda fails to teach or suggest this limitation. In Takeda's apparatus, separate devices are required for detecting a signal light and a monitor light. With reference to Figures 1A, 1B and 2B, Takeda clearly teaches that its apparatus requires one optical detector for monitoring 8, and another optical detector for signaling 7. As explained in Takeda, the "optical detector for signaling 7 is formed ... in the direction X of the semiconductor laser module 2," and the "optical detector for monitoring 8 is formed ... in the direction Y of the ... module 2." Col. 4, ll. 10-18. Thus, Takeda fails to teach or suggest a photodetecting device for detecting both the signal light and the monitor light, as recited in claim 1.

To anticipate claim 1 Takeda must teach or suggest each and every limitation of claim. For at least the reasons discussed above, Takeda fails to do so, and claim 1 is allowable. Claims 2-4 and 9/3 depend from claim 1 and contain every limitation of claim 1. Claims 2-4 and 9/3 are allowable for at least the same reasons claim 1 is allowable, and

also because the unique combinations recited by these dependent claims are neither taught nor suggested by Takeda.

For example, claim 9/3 recites that a "section of the diffracting device at a side of the optical device forms a section of bilateral asymmetry." This feature of the claimed invention is shown and described, for example, in Figures 13 and 14, and associated text of the specification. Takeda fails to teach or suggest this feature. The Office Action asserts only that "Takeda discloses that a section of the diffracting device at a side of the optical device forms a section of bilateral asymmetry (Fig. 3A, element 34)." Office Action, 4. The Office Action provides no support for this proposition other than reciting the Applicants' claim. There is no diffracting device at a side of an optical device that forms a section of bilateral asymmetry in Takeda. This is another reason why claim 9/3 is allowable.

Claim 10 recites an optical pickup apparatus comprising a "detecting means for detecting the light beam reflected from the optical recording medium ... for signal light detection; and ... the light beam reflected by the reflecting portion of the optical means to the detecting means for monitor light detection." As discussed above with respect to claim 1, Takeda fails to teach or suggest this limitation, and claim 10 is allowable for at least this reason.

Moreover, the structure of the present invention offers advantages over the structure of Takeda. The present invention uses a transmissive hologram for obtaining both the signals from the optical medium and the monitor signals. See, for example, page 9, lines 39-45 of the specification. The transmissive hologram obtains signals of a disk through a process of diffracting the light reflected by the disk. In the present invention, as shown in Figure A below, the monitor signals are produced by transmissively diffracting the light in the transmissive hologram, after leading the reflection light from the reflection layer to the transmissive hologram. The hologram for the monitor signals exists on a surface different from the reflection layer, and not on the reflection layer, as shown in Figure B below.

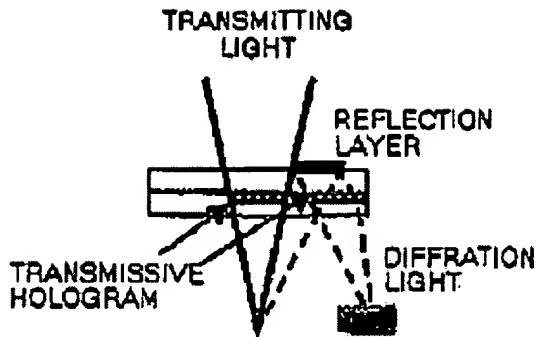


FIG. A

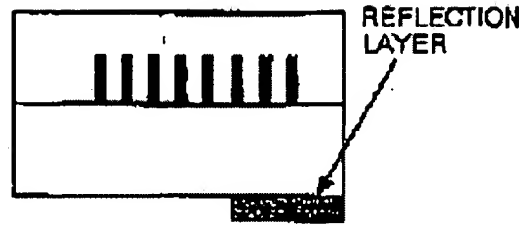


FIG. B

Takeda, on the other hand, obtains its monitor signal by reflection-diffracting light from a light source using a reflection hologram, rather than by a transmissive hologram. This is shown in Figure 3B of Takeda. As shown in figure 3C of Takeda, the hologram is formed on the surface of the reflection layer. Annotated versions of Figures 3B and 3C of Takeda are reproduced below. With Takeda, the holograms for obtaining disk signals and monitor signals have grooves with depths equal to each other. As a result, the respective transmissive and reflection holograms are not optimally provided with the grooves of different depths, and the holograms cannot produce optimal light amounts.

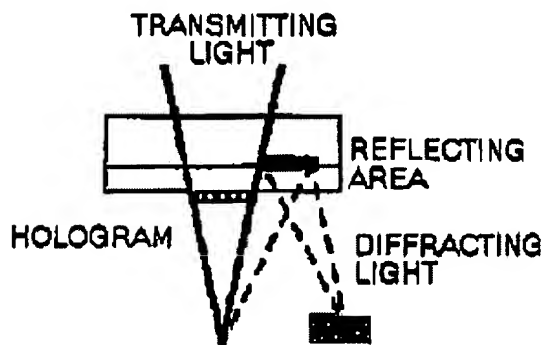


FIG. 3B

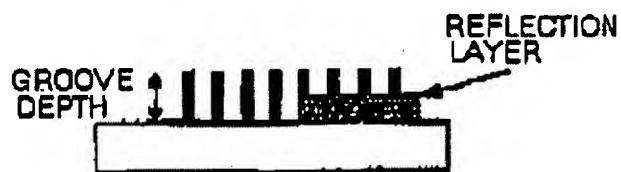


FIG. 3C

Applicants have added new claim 24 to cover this feature of the invention.
Claim 24 is allowable over Takeda for at least the reasons discussed above.

Claims 12, 14, 16 and 17 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Kay et al., U.S. Patent No. 5,544,143 (hereinafter "Kay"). Reconsideration is requested in light of the following remarks.

Claim 12 recites an optical data recording/reproducing apparatus comprising a "photodetecting device configured to detect the light beam reflected from the optical recording medium ... for signal light detection; and wherein the diffracting device includes a diffracting portion to diffract the one part of the light beam ... to the photodetecting device, so as to be detected on the photodetecting device for monitor light detection of the light source." As discussed above with respect to claim 1, the signal light from the optical recording medium and a monitor light are both guided to the one photodetecting device, which results in improved light utilization efficiency and accuracy of signal light detection.

Kay fails to teach or suggest this feature. Kay discloses a detector array 68, which comprises four detectors a, b, c and d, for detecting a return beam for signal light detection. Col. 8, ll. 4-10. For detecting a monitor light from a reflector, Kay teaches a separate front facet detector 72. Col. 6, ll. 18-25. See also Figure 1. Thus, Kay requires separate detectors for detecting the signal light and for detecting the monitor light. For at least this reason Kay fails to anticipate claim 12, and claim 12 should be allowed.

Claim 14 recites, *inter alia*, "detecting means for detecting the light beam ... for signal light detection; and wherein the diffracting means includes a diffracting portion to diffract the part of the light beam reflected by the reflecting portion of the optical means to the detecting means, so as to be detected on the detecting means for monitor light detection." Claim 16 recites, *inter alia*, a method comprising "detecting the light beam reflected from the optical recording medium ... for signal light detection by a photodetecting device; and diffracting the part of the light beam reflected by the reflecting

portion of the optical device to the photodetecting device, so as to be detected on the photodetecting device for monitor light detection of the light source.”

For at least the reasons discussed above with respect to claim 12, Kay fails to teach or suggest the above quoted limitations of claims 14 and 16. Claims 14 and 16 should therefore be allowed. Claim 17 depends from claim 16, and should be allowed together with its base claim.

Claims 5, 7, 8, 11, 13, 15, 18 and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kay in view of Ohyama, U.S. Patent No. 6,512,608 (hereinafter “Ohyama”). Reconsideration is requested for the following reasons.

Claim 5 recites, *inter alia*, an optical pickup apparatus comprising a “photodetecting device configured to detect the light beams ... for signal light detection; and wherein the diffracting device ... diffract[s] the respective parts of the light beams reflected by the reflecting portion of the optical device to the photodetecting device, so as to be detected on the photodetecting device for monitor light detection of each of the light sources.” Claim 11 recites, *inter alia*, a “detecting means for detecting the light beams ... for signal light detection; and wherein the diffracting means includes plural diffracting portions ... to diffract the parts of the light beams ... to the detecting means, so as to be detected ... for monitor light detection of each of the light emitting means.” Claim 13 recites, *inter alia*, a “photodetecting device configured to detect the light beams ... for signal light detection; and wherein the diffracting device includes plural diffracting portions ... to diffract the respective parts of the light beams ... to the photodetecting device, so as to be detected on the photodetecting device for monitor light detection.” Claim 15 recites, *inter alia*, a “detecting means for detecting the light beams ... for signal light detection; and wherein ... the respective light beams reflected by the reflecting portion of the optical means to the detecting means, so as to be detected on the detecting means for monitor light detection of each of the light emitting means.” And, claim 18 recites a method comprising, *inter alia*, “detecting the light beams reflected from the optical recording by a photodetecting device; and diffracting light beams reflected by the

reflecting portion of the optical device to the photodetecting device ... for monitor light detection of each of the light sources.”

As discussed above with respect to claim 12, Kay fails to teach or suggest these limitations of claims 5, 11, 13, 15 and 18. Ohyama adds nothing to Kay to remedy these deficiencies. Nor does the Office Action rely on Ohyama to teach these limitations, and Ohyama does not teach such limitations. Thus, even if properly combinable, Kay and Ohyama, taken alone or in combination, fail to teach or suggest all of the limitations of claims 5, 11, 13, 15 and 18, and these claims are allowable. Further, the Applicants do not agree that the references are properly combinable as suggested in the Office Action.

Claims 7 and 8 depend from claim 5, and claim 19 depends from claim 18. Claims 7, 8 and 19 contain all of the limitations of their base claims, and should be allowed for at least the same reasons the base claims are allowable.

New claims 20-22 have been added to round out the scope of protection afforded the invention. No new matter has been added. Support for new claim 20 can be found, for example, on page 15, lines 33-37 of the specification. Support for new claim 21 can be found, for example, on page 12, line 38 to page 13, line 40 of the specification. And, support for new claim 22 can be found, for example, on page 11, lines 5-32 of the specification.

Applicants note with appreciation the indication that claim 6 would be allowable if rewritten in independent form to include all of the limitations of its base and intervening claims. To this end, Applicants have cancelled claim 6, and added a new claim 23 which contains the subject matter of claim 6 and its base claim 5. New claim 23 is considered to be in condition for allowance.

Also, the Applicants note that claim 9/5 has not been rejected in the Office Action. Claim 9/5 are thus presumed to be allowable.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

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Respectfully submitted,

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Attachments